

Serial No. 10/686,174

Page 2

Amendments to the Specification:

Please replace paragraph 0022 with the following rewritten paragraph:

[0022] This invention provides a method for adjusting battery discharge power limits. More specifically, it may be used as a control algorithm for implementing a wide limit mode (WLM) of operation in an HEV, of the type described in commonly assigned, co-pending US patent application Serial Nos. 10/686,034 filed October 14, 2003 and 10/686,508 filed October 14, 2003 ~~—/— (Attorney Docket No. GP-304193) and —/— (Attorney Docket No. GP-304194)~~ which are herein incorporated by reference in their entirety, a compound split EVT HEV is disclosed which has characteristics of both a series and parallel HEV which generally comprise at least one drive motor, such as an internal combustion engine, at least one electric machine that is adapted to both provide propulsion to the vehicle and generate electric power for storage on the vehicle, and an ESS which typically comprises a rechargeable or secondary battery, as described herein. The WLM may be used to provide consistent vehicle launch characteristics. Vehicle launch conditions are defined broadly as conditions under which it is desirable to discharge the battery to provide vehicle propulsion, generally where the vehicle output speed is low and the desired output torque is high, such as acceleration from a stop, acceleration up an incline, and other operating conditions where it is desirable to discharge the ESS for vehicle propulsion. Launch conditions may be defined by a range of vehicle speeds and a range of desired vehicle output torques, or commanded output torques, associated with those vehicle speeds. Due to the dynamic charge/discharge conditions experienced by the ESS in an HEV, and the desire to monitor and control various battery parameters associated with these conditions, it is frequently the case that the discharge power of an ESS is limited by control actions taken due to ESS parameters. In the case of an ESS comprising a rechargeable battery, these may include battery parameters such as the state of charge (SOC), temperature and energy throughput. A method of determining parametric battery power limits for an ESS of an HEV which takes into account the battery SOC, temperature and amp-hour throughput is described in commonly assigned, co-pending US

Serial No. 10/686,174

Page 3

provisional patent application Serial No. 60/511,456 filed October 15, 2003 ~~____/____/____~~ (Attorney Docket GP-304118) and US patent application Serial No. 10/686,180 filed October 14, 2003 ~~____/____/____~~ (Attorney Docket GP-304119), which are both herein incorporated by reference in their entirety. Consequently, when the maximum battery discharge power is limited or reduced in conjunction with such control actions, the vehicle launch performance is as a result reduced as compared to situations where the batteries are capable of full utilization and provision of the maximum battery discharge power. This invention provides a method for temporarily widening the battery discharge power limits such that more battery power can be utilized for short times during vehicle launch to provide consistent vehicle performance without damaging the battery.